Nullifire SC803

PRODUCT DATA SHEET

SELECTION & SPECIFICATION DATA

Generic Type	Nullifire SC803 is an ultra low VOC, borate free, APEO free, water based, thin film intumescent coating for the protection of internal structural steelwork and concrete, optimised to 60 minutes fire protection.
Description	Nullifire SC803 is optimised to provide 60 minutes fire resistance to 'I' section beams and columns, hollow columns, hollow beams, cellular beams, concrete filled hollow columns, solid steel tension rods and concrete members. Limited 90 minute protection is also available. SC803 can be used on steel, cast iron, galvanised steel and concrete.
Features	• Ultra Low VOC. • Market leading loadings. • Compatible with a wide range of primers and topcoats. • Easy to apply, with excellent aesthetics. • Optifire+® unique traceability identifier. • CE & ETA 20/1210. • Tested and assessed to EN13381: Parts 6, 8, 9 & 10. • Indoor Air Emissions A+ & AGBB. • DGNB Navigator - 52P9A3 • Fire protection of concrete - EN13381-3
Color	White
Finish	Matt
Primer	The primer system shall not exceed 150 microns DFT total, with an absolute maximum allowable in overlap areas only of 200 microns DFT. Primed steel surfaces that are visibly high in gloss must be abraded/sanded to a matt finish. The primer must be applied in accordance with the manufacturer's instructions. It is recommended as best practice that a small test patch or area be prepared with the intumescent before commencing the full intumescent coating application to ensure that there are no issues with compatibility, adhesion or drying, etc. Contact Carboline Technical Service for a complete list of recommended primers.
Recommended Thickness	Dry Film Thickness (DFT): 690 microns - maximum Wet Film Thickness (WFT): 1000 microns - maximum Higher thickness's may be possible, however they will impact the drying times. The thickness's above are recommended for optimum film build and drying balance. For required thickness, consult Loading Tables.
Solid(s) Content	69% ± 3% by volume.
Theoretical Coverage Rates	1.38kg/m^2 based on an applied at 690 microns dry film thickness (DFT).
VOC Value(s)	<0.5g/l
Topcoats	The type, DFT and number of layers of topcoat must be in accordance with the specification. Specifications will be driven by the Nullifire Specification Guidance or the appropriate product ETA. The topcoat must be applied in accordance with the manufacturer's instructions. It is recommended as best practice that a small test patch or area be prepared before commencing the full application to ensure that there are no issues with compatibility, adhesion or drying, etc. Contact Carboline Technical Service for a complete list of approved topcoats.

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Density	1.38 ± 0,02 g/cm^3
Environmental Resistance	C1, C2 and C3 environments only. For full details, please consult Nullifire Specification Guidelines. The construction phase environmental conditions may vary from those during the final building classifications. The construction phase may include higher exposure to the environment than the final classification. Each product and specification should be considered for the resistance during this construction phase including the limitations and caveats. During the drying phase, the intumescent must be protected from all forms of water including rain. In all cases, prolonged water contact must be avoided, including condensation, standing water, heavy running water and fresh concrete run-off (including alkaline moisture). Exposure may lead to detrimental damage to the coating system. An appropriate specification must be used for the protection of the full system in accordance with the environmental classification for the environment where the building is located. The environment during construction and transport should also be considered, if necessary, and the worst case used. Carboline Technical Service can assist with selecting an appropriate specification. **Construction phase:** 6 months with topcoat once fully dried.
Traceability & Product Identification	Nullifire is bringing unique identification technologies to the market, offering architects, specifiers, main contractors, and applicators guaranteed traceability of product on-site. Our traceability technologies are not visible to the naked eye, and do not affect performance or product aesthetics. SC803 features Optifire+, a unique pigment technology, visible only with a specific Nullifire detector ; Optifire+ offers lifetime identification, and remains traceable even after a fire.

SUBSTRATES & SURFACE PREPARATION

General	SC803 should only be used on substrates which have had all mill-scale and blasted to an average blast profile of 75 microns, with a minimum of 40 microns, and a cleanliness of Sa2.5 must be achieved before application of a recommended primer. All surfaces must be clean, dry and free from contamination before coating application.

MIXING & THINNING

Mixing	SC803 is supplied ready for use and must not be thinned but should be mechanically stirred prior to use until homogeneous. Avoid over-mixing, as this may break down the thixotropy impacting the ability of the coating to achieve the targeted WFT's.
Thinning	Do not thin.

APPLICATION EQUIPMENT GUIDELINES

Listed below are general equipment guidelines for the application of this product. Job site conditions may require modifications to these guidelines to achieve the desired results.

Airless Spray	Airless spray equipment is recommended and should match these guidelines: Operating Pressure: 2500 - 3000psi (175 - 210kg/cm²)
Spray Tips	0.019" - 0.021"
Fan Size	20 - 40°.
Hose Length	Maximum 60 metres, in-line filters should not normally be used.

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Material Hose	10mm (3/8") internal diameter minimum.

APPLICATION PROCEDURES

General	Nullifire SC803 is recommended for application and use on dry protected structural steel only. If the steel coating is allowed to get wet, it is likely to be damaged – blistering and wrinkling may occur. SC803 should only be applied when the air and steel temperatures are above 5°C. Relative humidity should be below 85%. Steel surface temperature should be a minimum of 3°C above the dew point. Ensure the substrate is dry and free from contact with rain or condensation during the application and drying of SC803. Refer to SC800 series Application Instructions for guidance, or consult Carboline Technical Service.

CURING SCHEDULE

Surface Temp.	Dry to Touch	Dry to Recoat
20°C (68°F)	1 Hour	4 Hours

These figures are given as guidance only at 690 microns DFT. Other factors such as air movement, temperature and coating thickness must be considered.

CLEANUP & SAFETY

Cleanup	Fresh paint can be removed using water. Dried on paint may be removed using a paint scraper. Spray equipment must only be cleaned using water. Spray equipment must only be cleaned using water immediately after use.
Safety	USE IN WELL VENTILATED CONDITIONS and ensure all recommended protective equipment is worn during handling & use of this product. For full recommendation, refer to safety data sheet. Safety data sheet must be read and understood before use.
Overspray	All adjacent and finished surfaces shall be protected from damage and overspray.

MAINTENANCE

General	Damaged areas should be abraded back to a sound surface. The surface should then be clean and dry before re-applying. Once repaired, the original specification should be reinstated. Refer to SC800 Series Application Instructions for guidance.

TESTING / CERTIFICATION / LISTING

General	Life cycle analysis Environmental performance statement Indoor air comfort AgBB

TESTING / CERTIFICATION / LISTING

EN Standards	EN13381-8 – Structural Steel ETA 20/1210 and CE marked EN13381-6 – Concrete Filled Hollows EN13381-9 – Cellular Beams EN13381-10 – Solid Steel Rods Australian standards AS4100 and AS1530 (for other certification requirements, contact Carboline Technical Service.>

PACKAGING, HANDLING & STORAGE

Shelf Life	9 months when stored as recommended and in original unopened container at 20^{o}C.
Storage	Store in secure, dry warehouse conditions between +5ºC and +35ºC.
Packaging	25kg drums & 6.9kg tins.

WARRANTY